

In the Claims

Please replace all prior versions, and listings, of claims in the application with the following list of claims:

1-39. (Cancelled)

40. (Currently Amended) A semiconductor device comprising:
a silicon substrate;
a gallium nitride material region formed over the silicon substrate;
a first electrical contact formed over a portion of the gallium nitride material region; and
a second electrical contact formed over a portion of the gallium nitride material region;
and

~~wherein the semiconductor device has at least one via extending from a backside first side of the semiconductor device and having electrically conductive material formed therein, the electrically conductive material being electrically connected to the first electrical contact.~~

41. (Original) The semiconductor device of claim 40, wherein the first electrical contact is formed over a first portion of the gallium nitride material region and the second electrical contact is formed over a second portion of the gallium nitride material region, wherein the first portion and the second portion are on different planes.

42. (Original) The semiconductor device of claim 40, wherein the first electrical contact is formed over a first portion of the gallium nitride material region and the second electrical contact is formed over a second portion of the gallium nitride material region, wherein the first portion and the second portion are on the same plane.

43. (Cancelled)

44. (Currently Amended) The semiconductor device of claim 40, further comprising a ~~compositionally-graded~~ transition layer formed between the substrate and the gallium nitride material region.

45. (Currently Amended) The semiconductor device of claim 44, wherein the transition layer is compositionally-graded and further comprising a constant composition transition layer formed between the substrate and the compositionally-graded transition layer, the constant composition transition layer comprising a gallium nitride alloy, aluminum nitride, or an aluminum nitride alloy.

46. (Cancelled).

47. (Original) The semiconductor device of claim 40, wherein the semiconductor device is a light emitting device.

48. (Original) The semiconductor device of claim 47, wherein the semiconductor device is an LED.

49. (Original) The semiconductor device of claim 40, wherein the semiconductor device is a light-detecting device.

50-105. (Cancelled)

106. (New) The semiconductor device of claim 40, further comprising a third electrical contact.

107. (New) The semiconductor device of claim 106, wherein the first electrical contact is a source electrode, the second electrical contact is a drain electrode, and the third electrical contact is a gate electrode.

108. (New) The semiconductor device of claim 40, wherein the at least one via extends from a backside of the semiconductor device.

109. (New) The semiconductor device of claim 40, wherein the electrical contact comprises a first material and a layer of a second material, different than the first material, is formed between a portion of the electrical contact and a sidewall of the via.

110. (New) The semiconductor device of claim 109, wherein the first material is gold.

111. (New) The semiconductor device of claim 40, wherein the electrically conductive material comprises titanium and gold.

112. (New) The semiconductor device of claim 40, wherein the device is a transistor.

113. (New) The semiconductor device of claim 40, further comprising at least one non-conducting layer formed between the substrate and the gallium nitride material region.

114. (New) The semiconductor device of claim 40, wherein the gallium nitride material region includes a GaN layer and an AlGaN layer formed on the GaN layer.

115. (New) The semiconductor device of claim 40, wherein the via extends to a source region of the device.

116. (New) The semiconductor device of claim 40, wherein the via extends to the gallium nitride material region.